

# ***HI-VAL 56K***

## ***Internal PCI Windows Modem***

### **USER'S GUIDE**



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## **FCC Compliance Statement**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

## **FCC Warning Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can emit radio frequency energy and, if not installed or used in accordance with the instructions, may cause interference to radio communications. However, television reception interference can be determined by turning the equipment off and on. The user is encouraged to correct the interference by one or more of the following measures:

- ☐ Reorient or relocate the receiving antenna
- ☐ Increase the separation between the equipment and the receiver
- ☐ Connect the equipment into an outlet different from that to which the receiver is connected
- ☐ Consult the dealer or an experienced radio/TV technician for help.

## **CAUTION**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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### **Introduction**

Dear Customer:

Congratulations on the purchase of your 56K Internal PCI Modem. We can assure you that it is made from new state-of-the-art chipsets and components. Your product has also gone through the most rigorous test and quality assurance procedures in the industry.

We all want to express our sincere gratitude for your decision to purchase our product. Our commitment to you is to provide a product that is easy to install and use.

We began with one PCMCIA sound product in 1993. Since then, our company has grown and now offers more than thirty products in the computer market, including CD-ROM drives, 3D stereo sound cards, wave table sound cards, PCMCIA devices, accelerated 3D graphics cards, CD ReWritable drives, modems, scanners, USB cards, digital cameras, DVD drives and even MP3 playback devices. In the coming months we will introduce products using wireless technology, integrated multimedia solutions with video capture capabilities, video conferencing, and many other exciting technologies.

We hope you enjoy using your new product, and look forward to earning your business in the coming years.

## **Features Summary**

The HI-VAL 56K Internal PCI modem offers the following features:

### **Data:**

- Supported Communication Standards  
K56Flex.  
ITU-T V.90 auto detection.
- Supported Speeds  
56000, 54000, 52000, 50000, 48000, 46000, 44000, 42000, 40000, 38000, 36000, 34000, 33600, 31200, 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800, 2400, 1200, 300.
- Supported Protocols  
V.90, K56Flex, V.34, V.32bis, V.32, V.22bis, v.22, V.21, V.23, Bell212A, Bell 103.
- Data Compression  
V.42bis, MNP 5.
- Error Correction  
V.42, MNP 4.

### **Fax Features:**

- Supported Speeds  
14400, 12000, 9600, 7200, 4800, 2400, 300.
- Supported Protocols  
V.17, V.29, V.27ter, V.21, Channel 2.  
EIA Class 1 Command.

### **General Features**

- Auto Fallback
- AT Commands
- Plug & Play
- Data/Fax/Voice/Speakerphone
- High throughput Virtual UART, DTE rate up to 115,200
- Caller ID

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- PCI Interface.
- Optional Speakerphone as software upgrade through full-duplex audio chip.
- Auto selection of COM ports/IRQs.
- Supports Ties AT commands.
- Low power consumption (125mW operating @ 3.3V) and auto power management.

### **Data:**

- ITU-T V.34bis: 33,600, 31,200, 28,800, 26,400, 24,000, 21,600, 19,200, 16,800, bps.
- ITU-T V.32bis: 14,400, 12,000, 9,600, 7,200 bps (TCM), 4,800 bps (DPSK).
- ITU-T V.32: 9,600 bps (TCM/QAM), 4,800 bps (DPSK).
- ITU-T V.22bis: 2,400 bps (QAM).
- ITU-T V.22: 1,200 bps (DPSK).
- ITU-T V.21: 300 bps (FSK).
- ITU-T V.23: 1,200/75 bps (FSK).
- Bell 212A: 1200 bps (DPSK).
- Bell 103: 300 bps (FSK).
- Data Compression, ITU-T V.42bis MNP Class 5.
- Error Correction, ITU-T V.42 LAPM MNP 2-4.

### **Fax:**

- ITU-T V.17: 14,000, 12,000, 9,600, 7,200 bps (TCM).
- ITU-T V.29: 9,600 bps (QAM), 7,200 bps (QAM).
- ITU-T V.27ter: 4,800 bps (DSPK), 2,400 bps (DSPK).
- ITU-T V.21 Channel 2: 300 bps (FSK) Group 3 EIA Class I.

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### **Contents of your package**

Your HI-VAL 56K package should have the following items:

- 56K Internal PCI modem User's Guide (this manual)
- 56K Internal PCI modem card
- 56K Internal PCI modem installation CD.
- Phone cable.
- Fax/Data software.

### **System Requirements**

Your computer must meet the following requirements for the HI-VAL 56K and associated software to work properly.

- IBM PC or 100% compatible Pentium 200MHz or higher processor. AMD K6 200MHz or above.
- 16MB of System Memory or higher.
- 1 available PCI bus slot.
- Windows 98, 95 (OSR 2.1) or Windows NT 4.0 (Service pack 3) Operating System.
- CD-ROM drive for driver installation.



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### **Hardware Installation**

To install the 56K Internal PCI modem in your computer, follow these steps:

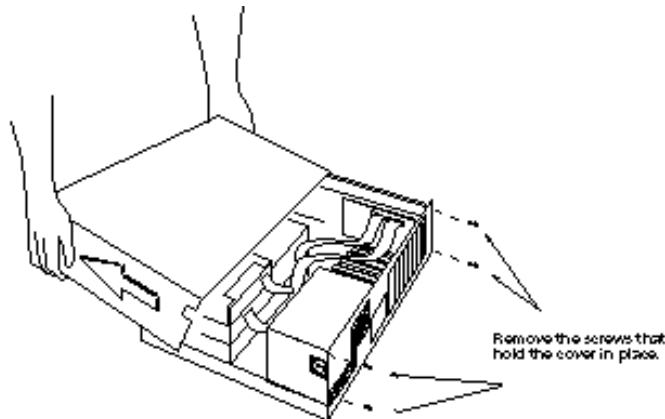
#### **1 Turn off your computer, monitor, and other peripherals**

You may also need to disconnect your power cord and other devices from the rear panel of your computer.



Electronic components are sensitive to static electricity. To prevent damage, discharge any static electricity from your body by touching any known grounded metal surface, such as your computer's chassis, before and during installation of hardware.

#### **2 Remove the computer cover**



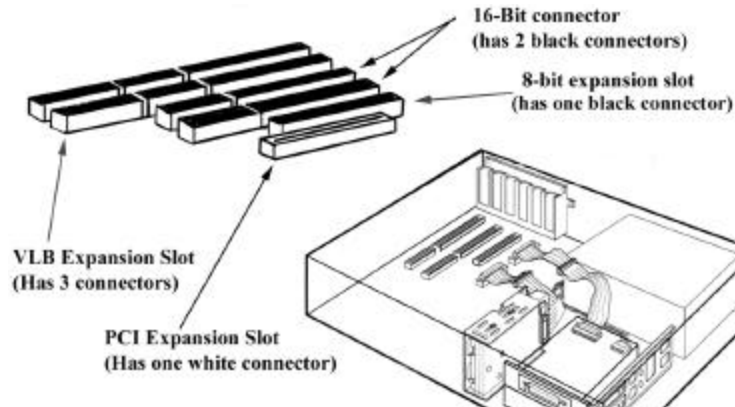
Locate and remove any screws that hold the cover in place. Gently remove the cover, leaving the base of the unit in place. You may need to wiggle the cover back and forth to loosen it. Do not use excessive force.



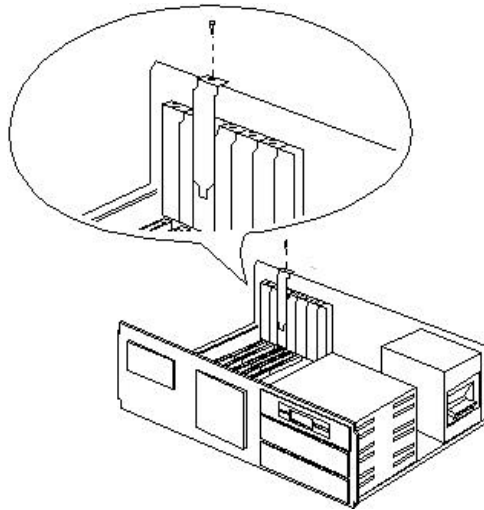
Your computer cover may be different than the computer cover shown above. The screws may not be located at the back of your computer. Some covers have screws on the side of the computer. Tower cases also have different locations for the screws. Refer to your computer's manual if you need specific instructions on how to remove the cover.

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### **3** Locate an available PCI expansion slot



### **4** Remove the cover plate from the access slot

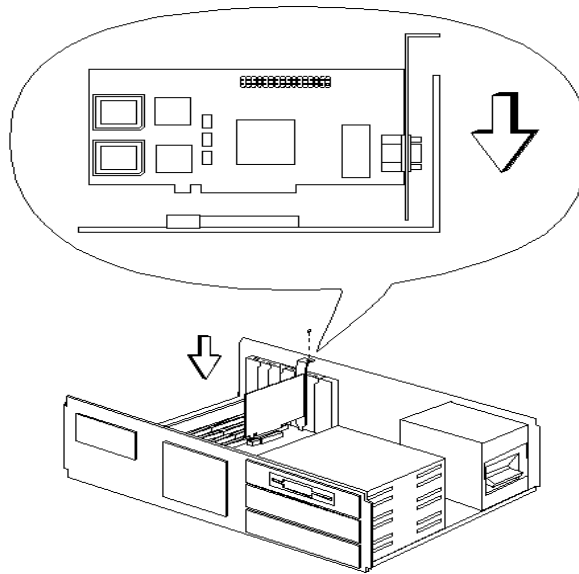


Each expansion slot has an access slot in the chassis covered by a removable plate. Undo the screw that holds the plate and remove the plate.

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### 5 Install the 56K Modem into the PCI slot



Place the card over the expansion slot with the mounting bracket facing the access slot (the same slot you removed the cover plate from). Carefully align the connector with the slot and push the card into the slot until it snaps into place. You may need to use a gentle back-and-forth rocking motion when inserting the card into the slot. Once you install the card, secure it by replacing the screw you removed with the expansion slot cover plate.

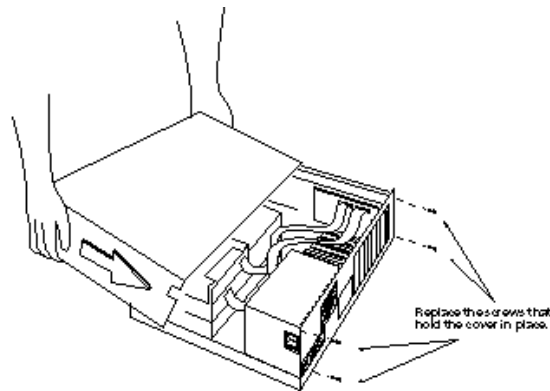


***Double-check all connections, make sure everything is plugged in correctly and firmly seated before you replace the cover.***

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### 6 Replace your computer's cover



Reverse the procedure followed when you removed the computer's cover.

Route all cables inside your computer so that they are not in the way of the cover.



Remember that your computer cover may be different from the one above. If you need help replacing the computer cover, refer to your computer's manual.

### 7 Turn on your computer, monitor, and other peripherals



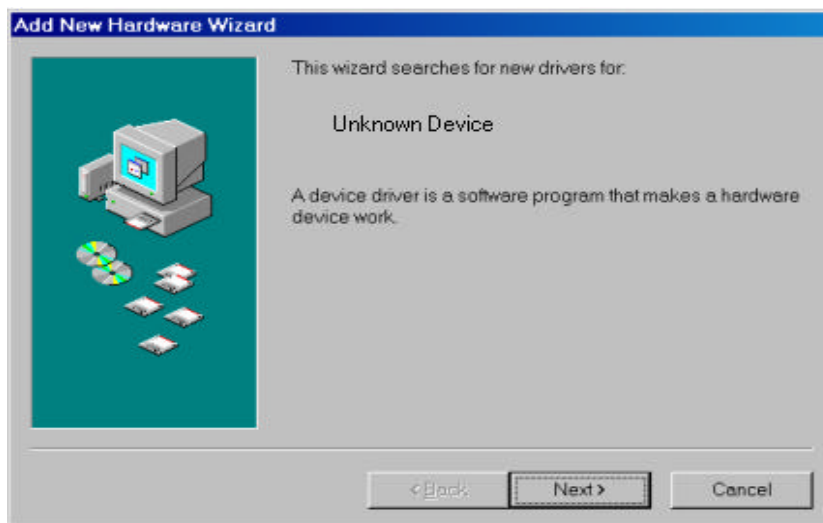
***Your computer should start up as it normally does. If it doesn't, power down your system first and check to make sure that all your expansion boards are firmly seated and that all cables, both inside and on the back of the computer, are properly connected. If you are still having problems, refer to the troubleshooting section before calling for help.***

Congratulations! You have now completed the hardware installation of the HI-VAL 56K Internal PCI modem. This concludes the installation of your 56K Internal PCI modem. Now you are ready to install the drivers.

## Driver installation

### Installation under Windows 95/98

- 1 Power on your System
- 2 Insert the 56K Internal PCI modem driver CD into your CD-ROM drive
- 3 During the load process, the "**Add New Hardware Wizard**" should detect a new hardware. Click on the "**Next**" button.



- 4 Select, "**Search for the best drivers for your device**" from the next screen and click on the "**Next**" button.

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Place a check mark next to **"Specify a location"** and type:  
**D:\Ess\Pci\ES2838\Win9x** (Where D:\ is your CD-ROM letter drive).  
Click on the **"Next"** button.



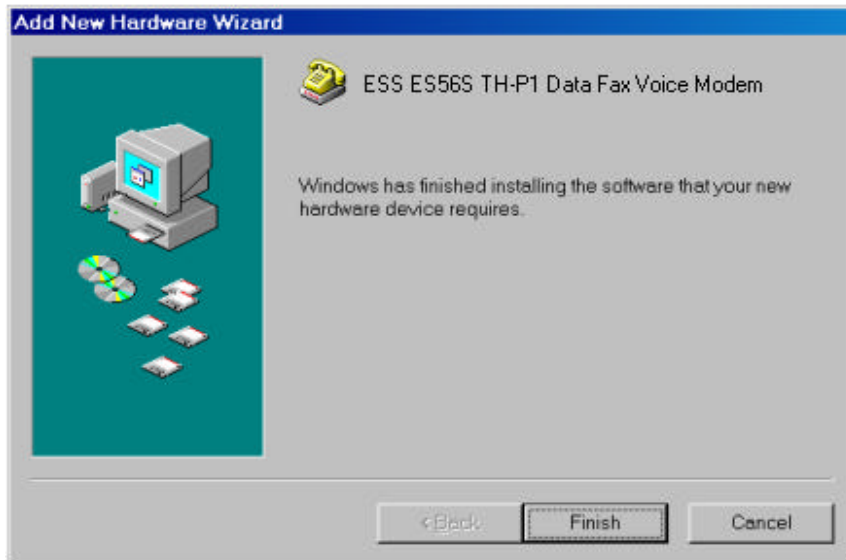
6 After the **"Add New Hardware Wizard"** finds a **"ESS Data Fax Voice Modem"**, Click on the **"Next"** button.



7 When the **"Add New Hardware Wizard"** has finished installing the drivers, click on the **"Finish"** button.

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**Note:** If after following these instructions your modem does not work, refer to the troubleshooting section for additional help.

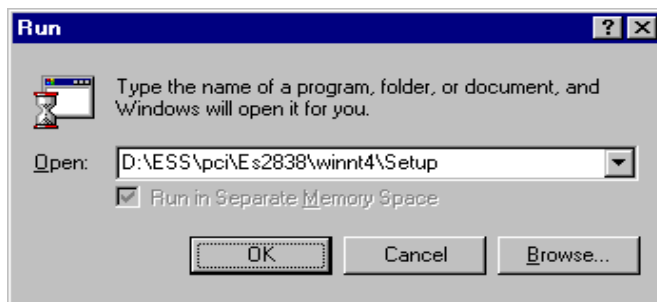
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### Installation under Windows NT

Windows NT 4.0 cannot automatically detect the CPU type from different vendors; therefore, we have provided different drivers for the appropriate CPU type. For **MMX CPU**, please use the drivers in the folder: "**Driver\nt\_mmx**". For **non-MMX CPU**, use the drivers in the folder: "**Driver\nt\_n\_mmx**". Be sure to use the correct driver for your CPU type. If you are unsure of the CPU type, contact your system vendor. This modem does not support Windows NT 4.0 Server.

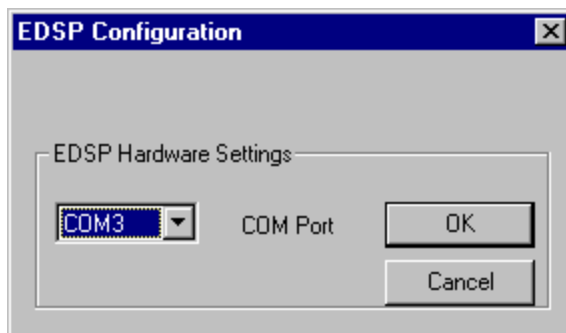
- 1 Power on your System
- 2 Insert the 56K Internal PCI modem driver CD into your CD-ROM drive
- 3 Log into Windows NT. Make sure you have sufficient rights to make changes to the system.
- 4 Click on the Start button on the task bar and select "Run". From the command prompt, type D:\Ess\Pci\Es2838\Winnt4\Setup (Where D:\ is your CD-ROM drive letter)



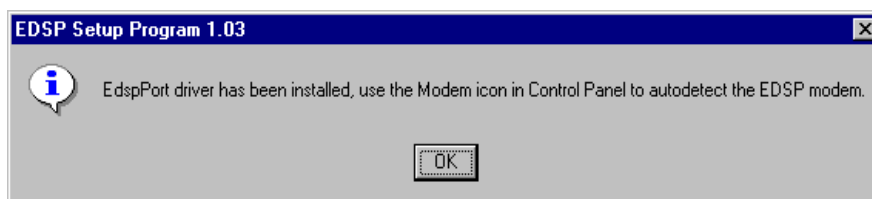
- 5 Select an available COM Port and click "OK".



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**6** Click on "OK" to continue.

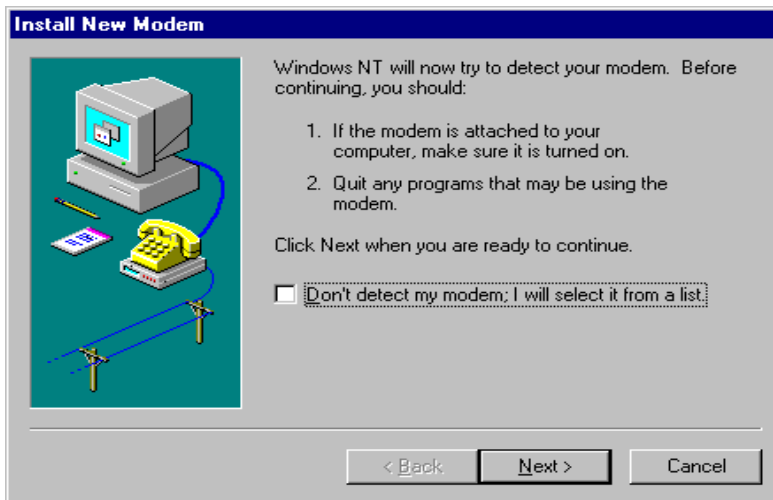


**7** Go to Control Panel (Start > Settings > Control Panel) and double click on the "Modems" icon.

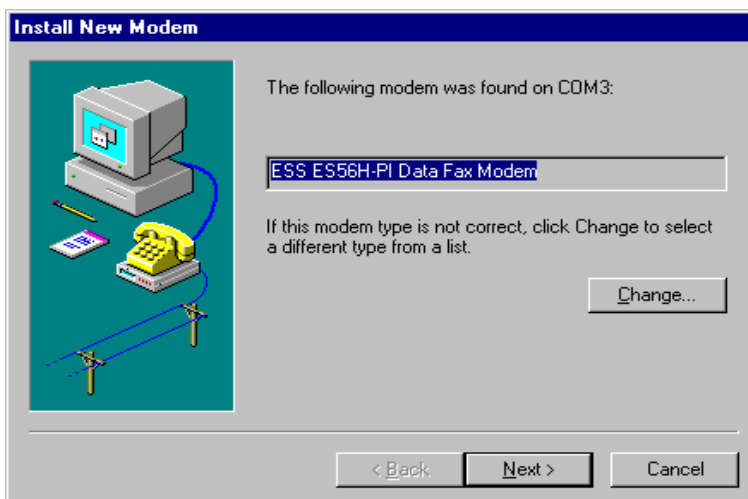


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**8** Click on "Next" to let Windows detect the new modem.

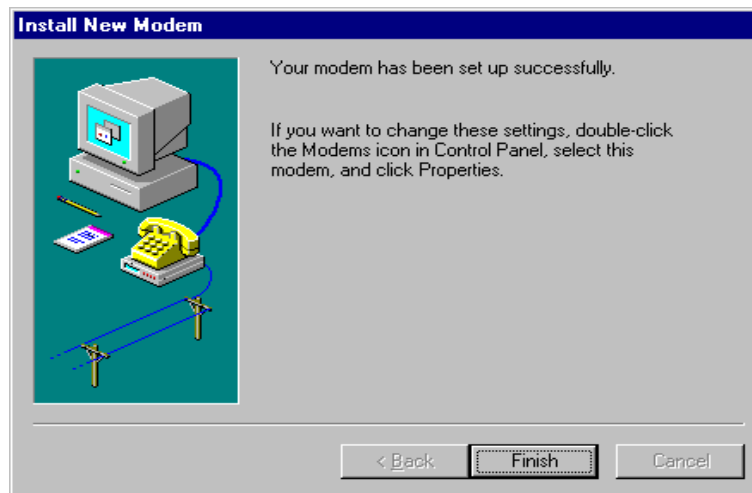


**9** Click "Next" after Windows has found the ESS Modem.

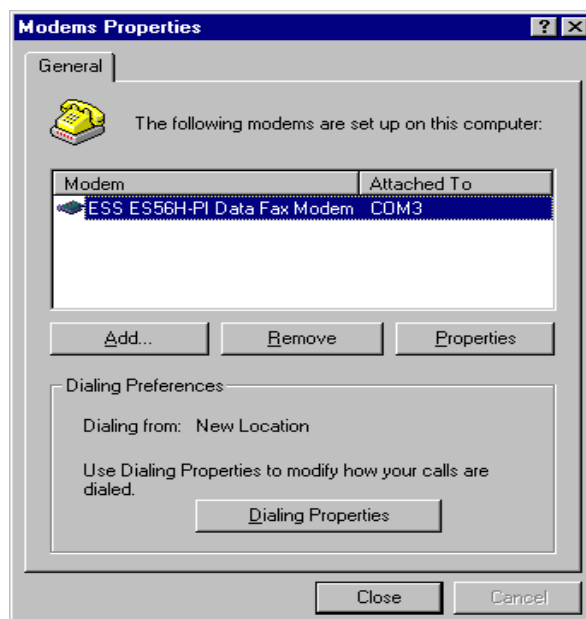


**10** Click "Finish" after the modem has been set up successfully.

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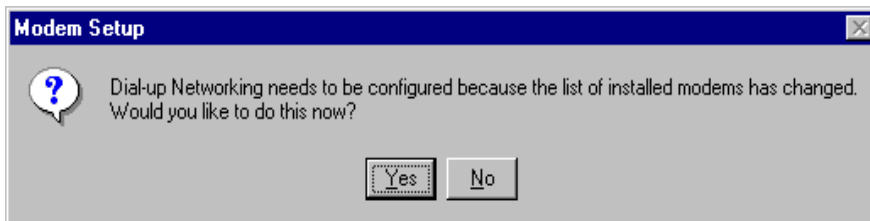


- 11** When the Modem Properties window appears, click "Close" to continue.

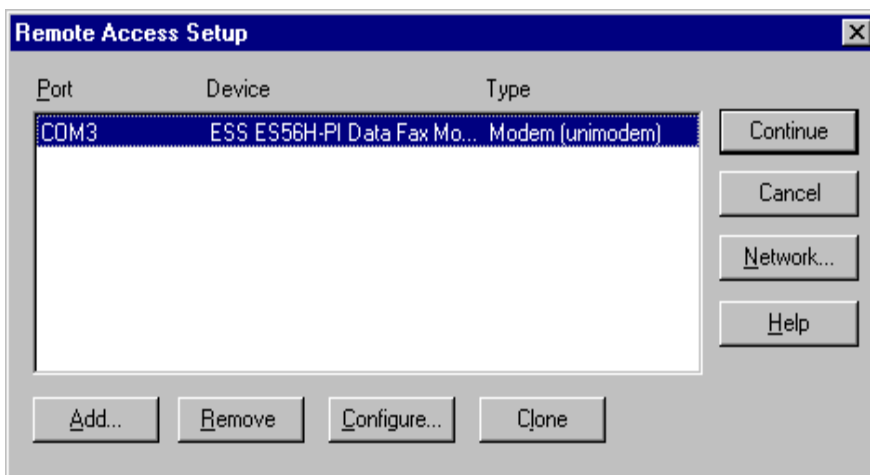


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**12** Click "Yes" If Windows asks to configure Dial-up Networking.



**13** Click "Continue" to exit form the Remote Access Setup.



**14** Click on the "OK" button when ask to restart the system before the system can use the modem.

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### **Installation under Windows 2000**

**1** Power on your System

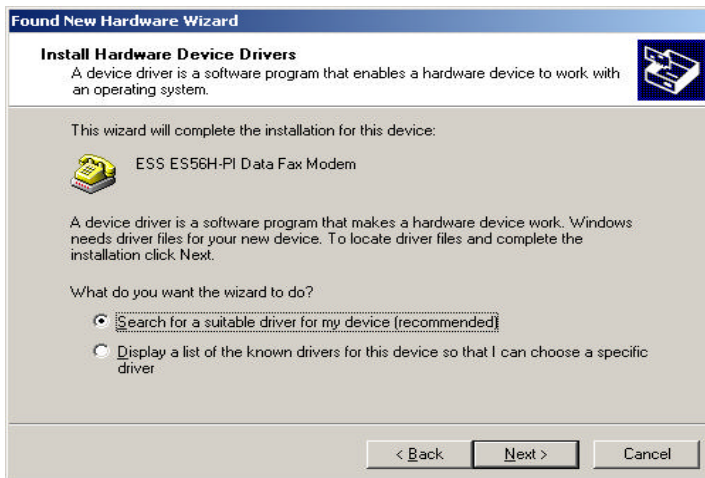
**2** Insert the 56K Internal PCI modem driver CD into your CD-ROM drive

**3** During the load process, the "**Add New Hardware Wizard**" should detect a new hardware. Click on the "**Next**" button.

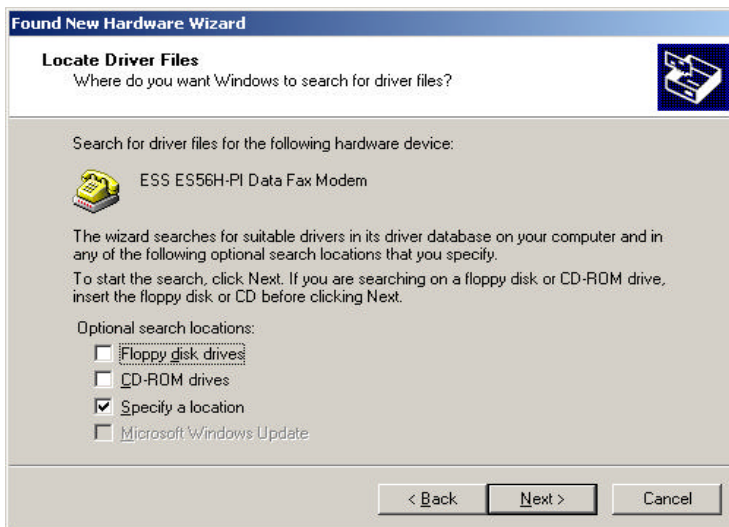


**4** Make sure "Search for a suitable driver for my device" is selected and click "Next".

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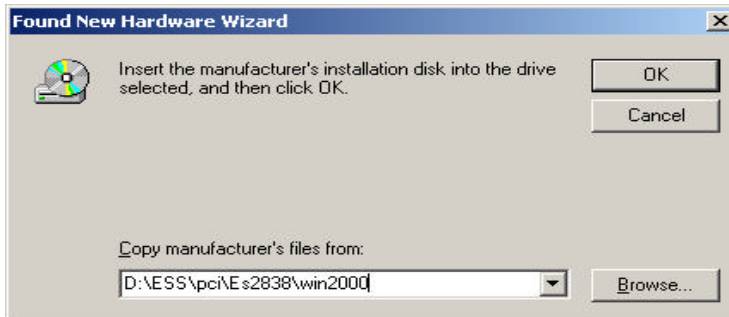


5 Select "Specify a Location" and click "Next".

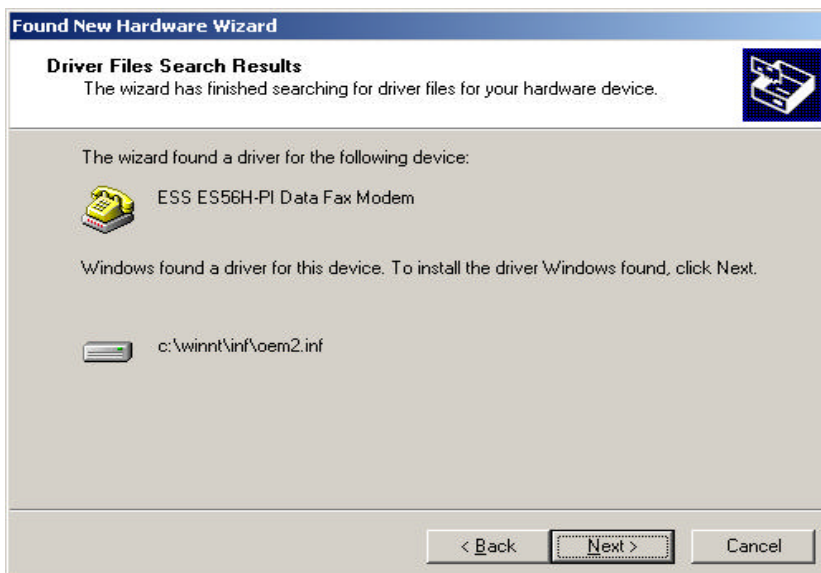


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- 6 From the prompt, type D:\Ess\Pci\Es2838\win2000 or Browse to the correct path on the CD-ROM. Click "OK"

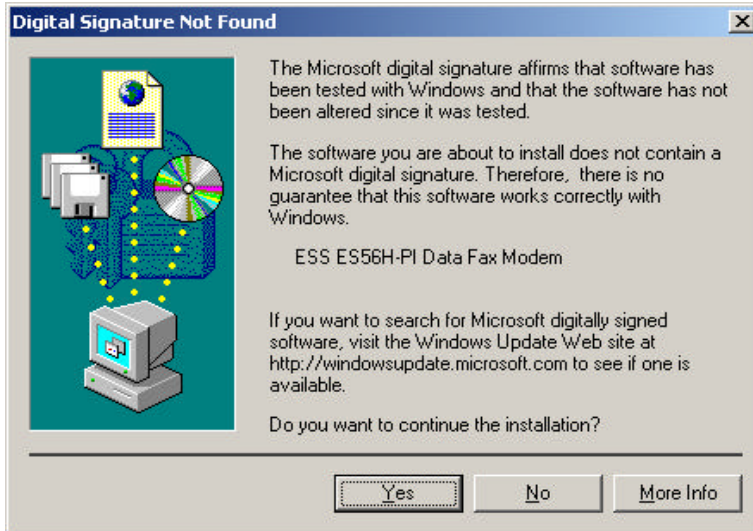


- 7 Click "Next" after Windows has found the driver for the ESS modem.



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- 8 Click "Yes" to continue if the "Digital Signature Not Found" window appears.



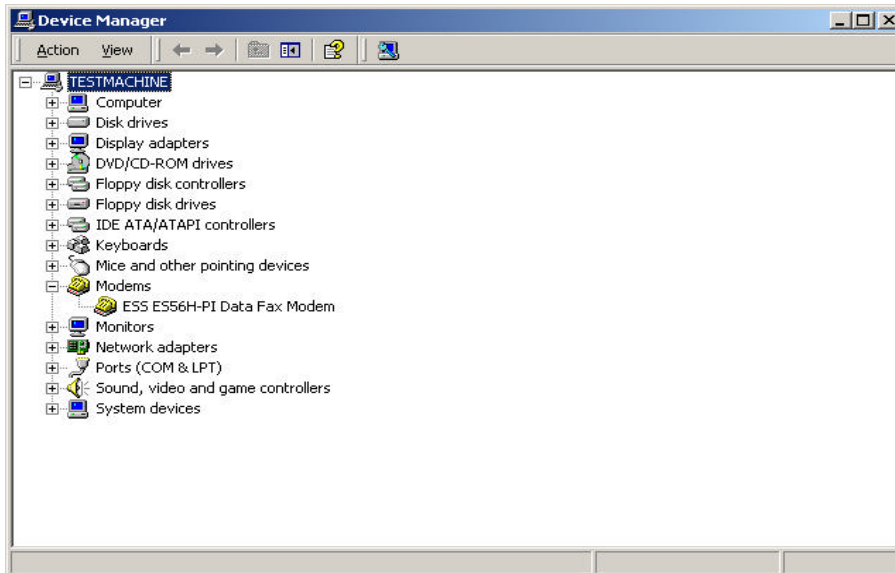
- 9 Click "Finish" after Windows has installed the drivers.





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- 10 Check the Device Manager (Start > Settings > Control Panel > System > Hardware > Device Manager) to verify that the modem has been successfully installed.

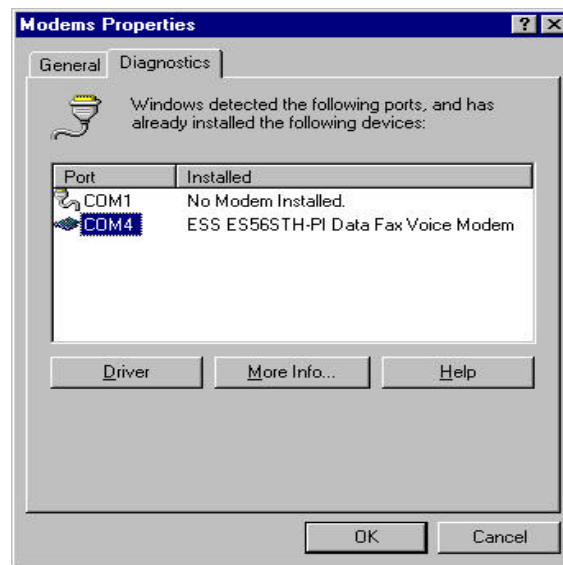


## Troubleshooting

This section is devoted to help you identify and resolve some of the frequently encounter problems that users come upon. Read the questions and answers carefully and pay attention to any special instructions. If you can not find an answer to your issue in this section, contact IOM Holdings technical support for additional assistance.

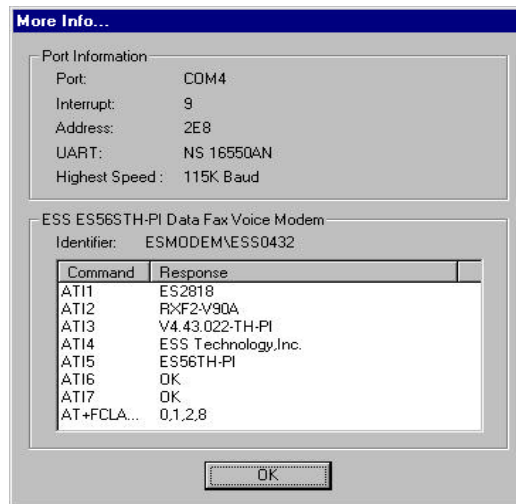
### How do I test to see if the modem is working properly.

Go to Control Panel and double click on the Modem Icon. Select the Diagnostic tab and highlight the appropriate COM Port.



Click on the "More Info" button. The modem should respond with information about the hardware. If you receive an error, the modem has not been installed or configured properly. Try uninstalling the modem driver, and reinstalling them again.

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**Modem was installed, but Windows 95/98 did not announce that it had found new hardware.**

Check that your modem is inserted all the way into the proper PCI slot. If it is installed properly and not being detected change it to a different PCI slot. Also make sure that PNP (Plug and Play) is set to AUTO in your BIOS setup.

**The modem was installed properly in Windows 95/98 but still does not work. I noticed a yellow exclamation mark on the modem name in the Device Manager. How do I get it working?**

The yellow exclamation mark means that the modem settings are conflicting with another device or it is not install properly. If you need to change the resources follow this instructions:

1. Click on the Start button > Settings > Control Panel and Double click on the System icon.
2. Select the Device Manager and click on the plus sign next to "Modems".
3. Double click on the device with the yellow exclamation mark on it.
4. Switch to the Resources tab.
5. Un-check "Use Automatic Settings" and choose a "Basic Configuration" from the "Setting based on:" box that does not conflict with the other device or double click on the specific resource name with the conflict and change it to a different one.
6. When prompted to confirm changes click on OK. (Click on OK until you are out of Device manager.)
7. Restart Windows.

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How do I re-install my modem in Windows 95/98 if it is not configured properly?

Follow these steps:

1. Click on the Start button > Settings > Control Panel and Double click on the System icon.
2. Select the Device Manager and click on the plus sign next to the modem category.
3. Highlight or select the modem.
4. Click on the **"Remove"** button.
5. Close all of your programs and Restart Windows.
6. Windows will prompt you for the modem drivers once it has re-started.

I tried to dial and I get no dial tone. How do I fix this?

There are several reasons why your modem might not get a dial tone. Check some of them:

1. Make sure the modem is connected to a working telephone line that can receive and send calls.
2. Make sure your telephone line is plugged into the "LINE" jack and your (optional) telephone is plugged into the "PHONE" jack.
3. Make sure the modem is install properly, is using the right drivers and that it has no resource conflicts with other devices.
4. Make sure the modem acknowledges any special numbers or characters to access an outside line (e.g. 9).
5. You have too many devices on the line. Try unplugging other phone devices connected to your phone line.
6. Your Digital or PBX does not support modems. Your PBX system must be equipped with standard analog lines for your modem. Try adding an **X** to the end of your initialization string.
7. The modem uses the inside two wires on the phone cable. If you have a multi-line phone system, your modem will not get the dial tone signal over the outside two wires.
8. If you have a voicemail system that gives you a stuttering dial tone to indicate new messages, then the modem should be set to ignore dial tone. Include several commas before the phone number to help the modem dial properly.
9. Your modem may have suffered damage from a recent power surge or an electrical storm. Contact Technical Support.

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### **I can never get connected over 28.8K with my 56K modem. Why?**

There are several reasons why you might not be able to connect over 28.8K. The main reasons are:

1. Modem is not install or configured properly.
2. Modem is using the wrong drivers.
3. Not dialing a 56K number.
4. Dialing a long distance number.
5. You are too far from the telephone switching station.
6. Not dialing a 56Kflex or V.90 number.
7. Physical telephone wiring (old wires).

### **Some times I get disconnected. Why?**

Some systems or ISPs have an Idle Time out. If you are on-line, but leave your account idle for a period of time, you may get disconnected.

### **Is "V.90" a further refinement of K56flex?**

Yes. K56flex "V.90" compliant modems will continue to deliver all the advantages of faster web browsing plus the ability to interoperate among various other 56K technology modems.

### **Do I need special software to convert my modem to V.90?**

No, you don't. Your modem has an auto-detection feature that will recognize what type of standard you are trying to connect to.

### **Is my modem a voice modem?**

Yes, it is. However IOM Holdings does not support this feature.

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### **Contacting Hi-VAL Technical Support**

If you experience problems with this Hi-VAL product and you cannot find an answer in the previous troubleshooting sections, you can contact Hi-VAL's Technical Support Staff. Please have the following information ready when you call:

- The name of the product you are having problems with.
- The operating system and processor (CPU) you are using.
- A detailed description of the problem.

***You can contact Hi-VAL's Technical Support staff at the following numbers:***

- Phone: **(714) 953-0589** (M-F 8:00AM – 5:00PM PST)
- Internet: **<http://www.hival.com>** (Go to the technical support section and fill out support form.)

### **Register Your Hi-VAL Product**

Please take the time to send in your registration card. The serial number of your drive is located on the top of the drive itself. The series of numbers under the bar code is the serial number.

- Go to **<http://www.hival.com>** and click on the “**register**” button.

This is actually the fastest way to receive the latest Hi-VAL product information and updates. Again, we would like to thank you for buying Hi-VAL products.

